Tennessee Tech University  
Mean, Median, Mode, and Range

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| Name: Madisen Clabough  Date: April 9, 2013 Lesson Title: Mean, Median, Mode, and Range Grade/Level: 5th |
| Curriculum Standards |
| **Tennessee State** –   * GLE 0506.5.2 Describe the shape and important features of a set of data using the measures of central tendency. * SPI 0506.5.3 Calculate measures of central tendency to analyze data. |
| Focus Questions/Big Idea/Goal (List all 3) |
| * What does it mean to find the mean of a set of data? * What does it mean to find the median, mode, and range of sets of data? * Students will develop and understanding of mean, median, mode, and range. * I can find the mean, median, mode, and range of a given set of data. |
| Lesson Objective(s) |
| Students will find the mean of data sets.  Students will find the median, mode, and range of data sets. |
| Vocabulary/ Academic Language |
| * **Mean** – The quotient of the sum of a set of data. * **Average** - The result obtained by adding several quantities together and then dividing this total by the number of quantities; the mean. * **Median** – The middle value of a set of data when placed in order. The median of an even set of numbers is the mean of the two middle numbers. * **Mode** – The number that occurs most often or most frequently. * **Range** – The range is the difference between the greatest and least numbers in a data set. |
| Material/Resources |
| Teacher Materials –   * Teacher Handbook * ActivBoard * Deck of Cards   Student Materials –   * Pencils * Math Notebooks * Math Books * Notebook Paper |
| Assessment/Evaluation |
| **Formative –**  Throughout the lesson, TW have students come to the ActivBoard to work problems involving the concepts discussed during the lesson. This, along with a Quick Check handout provided from the math book, will serve as a great formative assessment.  **Summative –**  At the end of the lesson, students will answer three final questions on an “exit-slip” type handout. Teacher will collect these “exit-slips” to gauge students’ understanding of the concepts taught during the lesson. |

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| Instruction  (Include a suggested time for each major activity) | List Questions for higher order thinking *These cannot be answered by yes or no.*  (Identify Bloom’s Level of Thinking) | |
| **Set/Motivator:**   * Teacher will gain the attention of the class by telling the students what they will be learning during the lesson. * TW will mention that at the end of the lesson, they will get to play a game to help solidify the concepts. * TW ask a few opening questions in regards to mean, median, mode, and range.   **Time: 6 mins.** | | Can you give an example of when you might want to find the *mean* of a set of data? (BT Level 1 – Knowledge) |
| **Instructional Procedures/Learning Tasks:**   * TW break content into two major sections for discussion: Mean/Median, Mode, and Range. **2 mins.** * TW lead class discussion on Mean. **10 mins.** * TW demonstrate on ActivBoard the correct steps to finding the mean of a set of data. **10 mins.** * SW come up to ActivBoard to show their understanding of the concept by finding the mean for given sets of data. **10 mins.** * TW discuss Median, Mode, and Range with the class. **10 mins.** * TW demonstrate the correct ways to find the median, mode, and range of different sets of data. **10 mins.** * SW come up to the ActivBoard to show their understanding of the concepts by finding the median, mode, and range for given sets of data. **10 mins.** * TW give instructions regarding the card game. **2 mins.** * TW provide handout with instructions for students to refer back to with a list of card values. **1 min.** * SW play card game as a group (with the classmates at their tables). **10 mins.** * Each SW provide a sheet of notebook paper with the values of the cards they were dealt. **1 min.** * SW find the mean, median, mode, and range of the set of cards provided to them by the teacher. **10 mins.** * TW collect answer sheets from the card game. **1 min.** | | Can you list the steps to finding the *mean* of a set of data? (BT Level 1 – Knowledge)  Can you find the *mean, median, mode,* and *range* of this set of data? (BT Level 3 – Application) |
| **Closure:**   * TW address any questions students’ may have at the conclusion of the lesson/activity. **<5 mins.** * TW quickly review material one last time before ending lesson. **<3 mins.** * TW provide students with their “exit-slips”. **1 min.** * SW answer questions on slips and hand them in for a grade. **5 mins.**   **Total Lesson Time: About 90 mins.** | | Discuss the use of each topic learned during the lesson. (BT Level 6 – Evaluation) |

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| **Adaptations to Meet Individual Needs:** Additional time will be provided to complete activity and/or “exit-slips to those students who require it. For any ELL students, TW rephrase certain aspects of the lesson to accommodate. When using the ActivBoard, students with visual impairments may sit closer to the screen if needed.  **Gardner’s Multiple Intelligences:**   * Interpersonal – Group work with card game. * Intrapersonal – Students will write their own “exit-slips” at the end of class to be turned in to the teacher for a grade. * Kinesthetic – Students’ use of the ActivBoard provides for hands on experience. * Verbal – During card game activity, students will participate in a group discussion about the concepts being taught in the lesson. * Logical – Student will use number sense to determine the mean, median, mode and range of each given set of numbers.   **Management/Safety Issues:** There are no major safety issues to consider during this activity. General classroom rules will be discussed before group activity begins. Desk groupings are predetermined by teacher to ensure maximum results during the activity. |
| **Rationale/Theoretical Reasoning:** Student use of ActivBoard – Jean Piaget’s Developmental Theory, use of visual aid to promote learning and evaluating. By using visual aids, students are more likely to connect concepts with these visual aids, which will in turn aid in the learning process. |
| **References:** enVision Text Book - Charles, R., Caldwell, J., Cavanagh, M., Chancellor, D., & Copley, J. (2008). *enVision Math: Grade 5*. Glenview: Scott Foresman & Co. |
| Reflections/Future Modifications:  During my Practicum placement in Ms. Brown’s, I wrote and performed a math lesson on mean, median, mode, and range. I began the lesson by talking a little bit about each topic and having the students come up and work example problems on the ActivBoard. They loved this. These kids love anything that gets them out of their seats. After this portion of the lesson, I asked the students to create a problem of their own to share with someone at their table. They had fun with this part of the lesson. One student said it felt like he was giving a classmate and test. That made me smile because it gave them the opportunity to be mini teachers.  The activity I did for this lesson was a card game. I passed out 20 cards (some from a deck of cards and some I made myself). From this deck, the students were to draw out 5 cards at random and lay them out on their desk in order from least to greatest. Then, they were to show me the mean, median, mode, and range for the data. The students kept drawing cards until each person at the table had the chance to draw.  Overall this lesson went very well. The kids seemed to respond well to the information presented to them. I think they thoroughly enjoyed the game and activity we did in class. In the future, I will spend more time of the actual content of the lesson. The only problem I encountered was that some of the children had a problem with the process of finding the mean of a set of data. I will spend more time on this process in the future. |